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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,196	07/24/2001	John P. Cumings	6125-0001	5292

23980 7590 11/05/2003

REED & EBERLE LLP  
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EXAMINER
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LE, HOA T

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 11/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/915,196

Applicant(s)

CUMINGS ET AL.

Examiner

H. T. Le

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 18-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4-6.                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election of claims 1-17 is acknowledged. 9. Claims 18-32 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 9.

### *Claim Rejections - 35 USC § 112*

2. Claims 1-9 and 11-17 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for removing just the ends of the outer shell and the concentric inner shells while leaving the inner core intact by a shaping electrode, does not reasonably provide enablement for this removal step by any other means. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. The only method of removing the ends of the outer shell and the concentric inner shells is by using a shaping electrode. No other means or method besides shaping is taught or disclosed in the instant specification. Therefore, other than shaping, one skilled in the art would not be able to remove the outer shell and concentric inner shells without touching the inner core. Instant claims 1-9 and 11-17 which fail to recite a shaping electrode as a means to remove the ends of the outer shell are therefore deemed broader than the scope of the enabling disclosure. Insertion of the limitation of claim 10 into claim 1 would obviate this rejection.

3. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 8, "outermost shell" has no clear antecedent basis. Note that "outer shell" is previously recited.

Other claims are deemed indefinite in view of their dependency upon claim 1.

*Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Zettle et al (Sharpened Nanotubes, Nanobearings, and Nanosprings).\*

Claims 1: Zettle et al disclose a method of telescoping a multiwalled nanotube by removing one end of the outer shell and of the concentric inner shells in order to expose and extract the inner core from a multiwalled nanotube. See abstract.

Claim 2: page 528, line 12 of last paragraph.

Claims 3-4: It is inherent that the method taught by Zettle can be applied on the nanotubes having this structure by repeating the same method steps.

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\* Copy of this article has been provided by Applicants.


Claims 5-6: The method taught by Zettle et al is suggested to be applicable to all multiwalled carbon nanotubes. See abstract.

Claims 7-9: It is inherent that the method taught by Zettle can be applied on the nanotubes having these structure because the shaping process is applicable regardless the number of the inner shells.

Claims 10-17: page 528, first paragraph.

6. References are cited as art of interest.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. T. Le whose telephone number is 703-308-2415. The examiner can normally be reached on 10:00 a.m. to 6:30 p.m., Mondays to Friday.

  
H. T. Le  
Primary Examiner  
Art Unit 1773

hl